

It is claimed:

1. A method for fabricating a fired ceramic article, the method comprising:
  - (a) forming a batch mixture of components comprising inorganic ceramic powder materials and organic compounds, the organic compounds having weight loss onset temperatures of varying values, wherein in a plurality of organic compounds, a first organic compound has a first weight loss onset temperature of lower value, then a second and subsequent organic compound having a higher weight loss onset temperature, the batch mixture being capable of yielding a fired ceramic article;
  - (b) intimately blending the components to form a workable and plasticized mixture;
  - (c) shaping the plasticized mixture into a green ceramic structural body and thereafter drying;
  - (d) heating the green ceramic structural body in a first phase, the heating being done in an oxidizing atmosphere to a temperature and for a time to enable sequential removal of the organic compounds, such that the organic compound with the first weight loss onset temperature being of lowest value is substantially removed prior to the organic compound with the subsequent higher weight loss onset temperature; and,
  - (e) further heating the green ceramic structural body in a second phase to a temperature and for a time to initiate and sufficiently achieve the conversion of the green ceramic structural body into a fired ceramic article.
2. The method of claim 1 wherein the inorganic raw materials include cordierite-forming materials in an effective amount which is capable of yielding a fired ceramic article whose predominant crystal phase is cordierite.
3. The method of claim 2 wherein the cordierite-forming raw materials include kaolin clay, talc and alumina.
4. The method of claim 1 wherein the organic compounds include an oil or oil-based compound, a binder and optionally a surfactant.
5. The method of claim 4 wherein the oil or oil-based compound has a flash point in addition to having the weight loss onset temperature, the flash point being of higher value than the weight loss onset temperature.

6. The method of claim 5 wherein the temperature during heating in the first phase is maintained below the flash point of the oil or oil-based compound until said is substantially removed from the green structural body.
7. The method of claim 6 wherein the flash point of the oil or oil-based compound is 155°C.
8. The method of claim 8 wherein the oil or oil-based compound is a polyalpholefin.
9. The method of claim 4 wherein the oil or oil-based compound is substantially removed prior to the binder.
10. The method of claim 4 wherein the binder is a cellulose ether.
11. The method of claim 10 wherein the cellulose ether binder is methylcellulose, and/or methylcellulose derivatives.
12. The method of claim 11 wherein the weight loss onset temperature of the binder is 200°C.
13. The method of claim 1 wherein the shaping of the plastic mixture into a green ceramic structural body is by extrusion.
14. The method of claim 13 wherein the plastic mixture is extruded through a die to form a honeycomb structural body.
15. The method of claim 1 wherein the green ceramic structural body is heated in the first phase in an oxygen-rich atmosphere having up to 21% by volume O<sub>2</sub>.
16. A method of firing a green ceramic structural body including an oil or oil-based compound, a binder and optionally other organic components, the method comprising:
  - (a) firing the green ceramic structural body in an atmosphere containing up to 21% by volume O<sub>2</sub> to a temperature and for a time to substantially remove the oil or oil-based compound prior to release of the binder and other optional organic components; and,
  - (b) further firing the green ceramic structural body to a temperature and for a time to initiate and sufficiently achieve the conversion of the green ceramic structural body into a fired ceramic article.
17. The method of claim 16 wherein the oil or oil-based compound is a polyalpholefin.

18. The method of claim 17 wherein the binder is a cellulose ether.
19. The method of claim 18 wherein the cellulose ether binder is methylcellulose, and/or methylcellulose derivatives.
20. The method of claim 16 wherein the further firing of the green ceramic structural body is to a temperature of 1300°C to 1450°C with a hold time of 1 hour to 20 hours.
21. The method of claim 20 wherein the fired ceramic article has a predominant phase of cordierite.